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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------|
| 10/663,046 | 09/15/2003 | Michael Lee Gasperi | 02AB146-A/YOD ALBR:0132-1 | 1996 |
| 7590 | 07/12/2006 | | EXAMINER KAPLAN, HAL IRA | |
| Alexander Gerasimow Allen-Bradley Company 704P Floor 8 T29 1201 South Second Street Milwaukee, WI 53204 | | | ART UNIT 2836 | PAPER NUMBER |

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,046

Applicant(s)

GASPERI ET AL.

Examiner

Hal I. Kaplan

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36,37,39-46 and 49-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49-65 is/are allowed.
- 6) ☒ Claim(s) 36,37,40,42 and 45 is/are rejected.
- 7) ☒ Claim(s) 39,41,43,44 and 46 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>20060705</u> |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The Examiner wishes to thank the Applicant for the time and courtesies extended in the interview of February 24, 2006. The form PTO-1595 and recordation of assignment discussed in the interview have not been received, and the assignment has not yet been recorded.

Priority

2. The Examiner wishes to acknowledge applicants' amendment to the specification to include a reference to a prior-filed application in compliance with 37 CFR 1.78(a).

Specification

3. The disclosure is objected to because of the following informalities: Page 10, line 16 contains the word "difference". It appears this should be "differences".

Appropriate correction is required.

Drawings

4. The drawing was received on May 15, 2006. This drawing is accepted.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 36, 37, 40, 42, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by the US patent of Harkcom et al. (6,998,545).

As to claim 36, Harkcom, drawn to touch and proximity sensor control systems and methods with improved signal and noise differentiation, teaches, in Figures 7 and 8, a method, read on the claimed method, comprising: receiving a plurality of input signal values from a respective plurality of sensors (32) activated by an object (see column 2, lines 34-58 and column 7, 44-46); comparing the input signal values to at least one region of signal values corresponding to anticipated values of the input signals derived from anticipated variations of the input signals based at least upon anticipated noise at the sensors (see column 8, line 11 through column 9, line 19 and column 10, lines 32-35), wherein the input signal values are redundantly compared to the anticipated values to verify that all input signal values considered correspond to an ON state prior to determining that the system should be placed into an ON state (see column 7, lines 50-60); and determining a state of the switching system based upon the comparison (see column 10, lines 42-57).

As to claim 37, in the method of Harkcom, the input signal values are based on accumulated values of sampled signals (see column 8, lines 15-29).

As to claim 40, in the method of Harkcom, the state is determined from one of a plurality of possible states, including an ON state (see column 10, lines 51-57), an OFF state (see column 10, lines 51-57), and a FAULT state (see column 10, lines 42-51).

As to claim 42, in the method of Harkcom, the FAULT state is determined when noise in the input signal values is determined to be high (see column 8, line 53 through column 9, line 6 and column 10, lines 42-51).

As to claim 45, in the method of Harkcom, the at least one combination of ranges of signal values corresponds to anticipated input signals received from a plurality of sensors activated by a naked human hand (see column 7, lines 6-11 and column 7, line 64 through column 8, line 2).

Allowable Subject Matter

7. Claims 49-65 allowed.

8. The following is an examiner's statement of reasons for allowance:

Claims 49-65 are allowed because none of the prior art of record discloses or suggests capacitive coupling of each of the plurality of sensors to one another through the object, in combination with the remaining claimed features.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

9. Claims 39, 41, 43, 44, and 46 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Claim 39 contains allowable subject matter because none of the prior art of record discloses or suggests capacitive coupling of each of the plurality of sensors to one another, in combination with the remaining claimed features.

Claim 41 contains allowable subject matter because none of the prior art of record discloses or suggests the switching system not being switched from the FAULT state to the ON state until an input exceeds a preset threshold value, in combination with the remaining claimed features.

Claims 43 and 44 contain allowable subject matter because none of the prior art of record discloses or suggests the comparison being at least partially based upon a limit between the ON state and the FAULT state, in combination with the remaining claimed features.

Claim 46 contains allowable subject matter because none of the prior art of record discloses or suggests the object being a gloved human hand, in combination with the remaining claimed features.

Response to Arguments

11. As to the specification, Applicant corrected "difference" to "differences" at page 10, line 9 instead of page 10, line 16 by mistake. "Difference" at page 10, line 9 was correct as originally submitted.

12. Applicant's arguments, see Remarks, filed May 15, 2006, with respect to the objections and rejections under 35 U.S.C. 112 have been fully considered and are persuasive. The objections and rejections under 35 U.S.C. 112 have been withdrawn.

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13. Applicant's arguments filed May 15, 2006, with respect to the rejection of claims 36, 37, 40, 42, and 45 under 35 U.S.C. 102 as being anticipated by Harkcom have been fully considered but they are not persuasive.

The Applicant argues that Harkcom does not disclose a method of comparing input signals in a touch sensor such that the input signal is redundantly compared to anticipated values. However, Harkcom does disclose such a method. Column 7, lines 50-60 state that "each of the signals (from *six touch sensors*) are then analyzed ... to determine whether a human-intended activation has occurred". Therefore, Harkcom does disclose redundant comparison (six comparisons), and the state ("whether a human-intended activation has occurred") of the switching system is determined based upon the comparison.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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